

Message

From: Seth Lyman [seth.lyman@usu.edu]
Sent: 11/16/2018 4:58:25 PM
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Subject: Revised IR survey final report
Attachments: IRSurveyReport_Nov2018.docx

Flag: Follow up

All: Attached is the revised report. Please let me know if you suggest further changes. Text I've changed on this round is red in the document. A couple of notes:

- I said before that the per-well cost for the helicopter is similar to the per-well cost for the ground survey we did. This is true if you use our (USU's) actual direct costs (helicopter is \$22 per well, compared to about \$25 per well for our direct costs). Instead of our costs, I calculated the ground survey costs using labor costs from a new paper that just came out that tried to do something similar. I used their estimated industry costs for labor, rather than our own costs, since their costs were based on an analysis of costs to industry. I also added realistic maintenance and depreciation costs for the camera (our actual cost for the camera was \$0). Using this method, the per-well cost of the ground survey came out to be \$50. This is explained in the Methods, and the results are on Page 22.
- Also, I took the bullet point about costs of repairs out of the executive summary. It is still in the conclusions. I wanted to keep the executive summary to a single page, and to do that I had to remove something.
- One of the suggestions was to look at pad age and production independently, to remove the effects of autocorrelation. I dug into this a bit with multiple regression, but the correlations are too low to draw any useful conclusions, so I didn't make any changes there.

-Seth

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